

DETAILED ACTION

Response to Arguments

Applicant's argument filed November 17, 2011, with respect to claims 13 and 32 have been fully considered but they are not persuasive.

Applicant argues that "neither Flickinger, Morrison, Tanaka, Hite, Liga, Son nor Leibbrandt is suggested as teaching 'monitoring at least one channel in order to detect the presence of a cache marker' and where 'receiving a first cohesive signal set having a first cohesive signal set size the first cohesive signal set comprising the cache marker at a first time' is 'in response to detecting a cache marker'". The examiner disagrees.

While Flickinger is not so specific as to recite "monitoring... [a] channel", Flickinger teaches detecting, by the STB, an ad tag or vector, where in response to detecting the presence of an ad tag the STB determines whether or not to store the ad (see e.g. [0056] where the act of detecting data in a line of communication reads on "monitoring at least one channel").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 13, 16, 17, 24-26, 29, 30, 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger et al., (U.S. Pub. No. 2002/0083441 A1), in view of (Morrison, U.S. Patent No. 5,815,671), (Tanaka et al., U.S. Pat. No. 7,146,631 B1), Hite et al., (U.S. Pat. No. 5,774,170), Liga et al., (U.S. Pub. No. 2003/0154128 A1), Son et al., (U.S. Pub. No. 2002/0026645 A1) and Leibbrandt et al., (U.S. Pub. No. 2006/0107301 A1; alternatively WO 2004/028153 A1).

Regarding claims 13: Flickinger discloses a method for time-shifting at least one of a plurality of received cohesive signal sets, comprising: monitoring at least one channel in order to detect the presence of a cache marker; and in response to detecting a cache marker, receiving a first cohesive signal set comprising a cache marker at a first time; based on the presence of the cache marker, automatically storing said first cohesive signal set in a computer readable storage medium (see e.g. [0056] where although Flickinger is not so specific as to recite “monitoring... [a] channel”, Flickinger teaches detecting, by the STB, an ad tag or vector, where in response to detecting the presence of an ad tag the STB determines whether or not to store the ad; see also [0073-75] for a tag or other form of information, which reads on a cache marker, associated with the ad which can be used by the receiving device to determine whether or not to automatically store the ad; see e.g. also [58] where each ad is assigned a unique identifier); and receiving a second cohesive signal set, comprising a recall marker at a second time (see e.g. [fig. 9], [42], [63], [93] where the programming set contains interval data “avails” and cue data, which reads on a recall marker in that the avail data and cue data are used for recalling

and inserting stored ads to be placed in the output stream after the first time and the second time as prompted by a user request for programming). While Flickinger discloses wherein in response to receiving a user request for the second cohesive signal set outputting the requested second cohesive signal set and the first cohesive signal set in a timed relation relative to one another that differs from a timed relation in which they were received (see e.g. [fig. 9], [29], [34], [42], [66] where the device can also operate as a personal video recorder to playback programming and ad material in a time shifted manner as requested by the user), Flickinger does not explicitly teach matching, through a determination, the recall marker to the cache marker of the first cohesive signal set, wherein the output timed relation is determined by the recall marker, or where the first cohesive signal set, which has a first cohesive signal set size, is intermixed with the second cohesive signal set which has a recall marker having a recall marker size, and where the recall marker size is significantly less than the first cohesive signal set size.

Morrison teaches using signal sets which, in addition to including programming and ad messages, include codes which can be used to match ad messages with programming messages such that the data which is coded into the programming can be used to find the uniquely specified message stored in the receiving device (see e.g. [col. 3, ll. 16-55], [col. 5, ll. 1-14], [table 1], [cols. 9-10, ll. 60-17]). Morrison also teaches determining the output timed relation using a program break flag which reads on a type of recall marker (see e.g. [col. 3, ll. 16-55], [cols. 3-4, ll. 64-14]). Therefore, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to modify the receiver and the coded data received in the programming message, as taught in Flickinger, by providing more detailed information which can be used for comparison by the receiving device and using a program break flags, as taught by Morrison, in order to enable program providers to have more control over what and when ad messages are inserted into the programming messages to provide users with a more unique style of services (see e.g. [col. 1, ll. 38-50]).

Tanaka teaches transmitting by a broadcasting network and receiving by an end user terminal, a content stream containing tags, which read on recall markers, that are much smaller in size than full length commercials, containing only information within the tags specifying a URL or more generally a sponsor or product identifier (see e.g. [figs. 1, 2], [abstract], [col. 1, ll. 45-66], [col. 2, ll. 4-30]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second cohesive signal set by embedding a tag which contains information which is significantly less than the size of the commercial which will be interrelated with the primary content stream, as taught by Tanaka, in order to provide a more efficient means of interrelating local and regional content with the national satellite digital broadcasting network content stream.

While Tanaka teaches uniquely matching commercials by using tags contained in the programming stream (i.e. where the tags contain both URL information and other codes, such as sponsor or product codes, to assist in commercial selection), Tanaka is not so specific as to address what information is

contained in the commercial to assist in this matching process. However, Hite teaches an analogous system for matching commercials with programming where the commercials contain identifiers, referred to as CIDs, which are used to select the appropriate commercial to match the programming (see e.g. e.g. [cols. 3-4, ll. 40-24], [col. 5, ll. 29-39]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means of targeting and selecting ads for display by using both identifiers transmitted along with a program stream, which can be matched with identifiers in each commercial stored on a user device, which read on cache markers, as taught by Hite, in order to increase the effectiveness of matching programming content with meaningful commercial messages to consumers by selecting desired ad/commercial for presentation.

Furthermore, Tanaka teaches presenting alternative commercial content in the event tag information, which is used to identify a specific commercial to be inserted, does not uniquely determine a commercial (see e.g. [col. 7, ll. 61-67], [col. 10, ll. 28-34] where the unique commercial designated to fill the programming break is unavailable (i.e. not able to be determined) and other potential commercials are selected for the user to choose from) but does not teach where the selected commercials are from among the same advertiser.

Liga teaches a system for replacing ads (see e.g. [abstract]) where if an ad is unavailable, a replacement ad is selected “according to a set of business rules” to fill the ad’s place (see e.g. [0009], [0024], [0053], [0078], [0084] where a stale ad reads generally on an ad which is unavailable and needs to be replaced). Therefore, it

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would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means by which Tanaka selects replacement ads when a match is not available, by replacing the unavailable ad with an ad from the same advertiser, as taught by Liga, in order to satisfy predefined business rules which ensure that ads are seen by the consumer.

While Liga teaches identifying a unique ad content for display (see e.g. [53] for locating an ad by a unique number) Liga fails to teach first determining whether the requested ad content is located in the storage, but rather teaches where it is assumed that the ad content is located in storage but where said ad content is either stale or acceptable for display (see e.g. [84]). Liga also teaches that in the event said ad content is stale a remote location may be queried to replace the stale ad (see [9], [85-87] where a “fresh” ad is requested to replace the stale ad which is not available for insertion). In an analogous art for requesting content from a local storage device to be displayed to a user, Son teaches first determining whether or not the content is stored in the local storage medium (see [55] where if the content is not stored in the medium the system may then request replacement content from a remote location similarly to the remote request procedure of Liga but performed instead when no ad is present in local storage, as opposed to an ad which is present but not available for use). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means by which content is retrieved, as taught in Liga, by including a first step to check if the content

sought is located in storage first prior to seeking a replacement, as taught by Son, in the event that there is no matching content located on the local storage device.

Flickinger in view of Morrison, Tanaka, Hite, Liga, and Son do not disclose the limitation “determining whether the cache marker identically matches a cache marker already stored in a computer readable storage medium” and wherein “based on a determination that the cache marker does not identically match a cache marker already stored in the computer readable storage medium” automatically storing said first cohesive signal set.

However, in analogous art for storing video content, Leibbrandt teaches determining whether video content which has a unique identification matches video content already stored in a computer readable storage medium and if no matching video content is determined to already be stored, automatically storing the video content, based on the determination that the unique identification for the incoming video does not match any video content already stored in the computer readable storage medium (see e.g. [0068]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the storage procedure by first checking to see if the video content to be stored, already exist in storage, as taught by Leibbrandt in order to prevent the waste of unnecessary storage space with duplicate video content.

Regarding claim 16: The combined teachings of the aforementioned art teach the method of claim 13 wherein outputting said the requested second cohesive signal set comprises outputting a portion of the requested second cohesive

signal set said portion as received without storing said portion (see e.g. Flickinger [42], [66], [93] where it is implicit that the standard means of receiving and outputting of programming material (second cohesive signal set) is done without storing it first where storing the programming material is presented as an alternative).

Regarding claim 17: The combined teachings of the aforementioned art teach wherein determining whether the advertiser associated with the recall marker is the advertiser associate with the first cohesive signal comprises matching a sponsor identifier, which reads on an advertiser (see e.g. Tanaka and Hite [col. 4, ll. 19-24] for using tags and CIDs containing data to associate programming material and commercials; see e.g. also Liga [0053], [0084] for embedded data which identifies the advertiser and for determining whether the replacement ad is from the same advertiser when replacing said ad).

Regarding claim 24: The combined teachings of the aforementioned art teach wherein the cache marker uniquely identifies the first cohesive signal set of which it comprises and the recall marker uniquely matches the cache marker (see e.g. Flickinger [58] which reads on the cache marker uniquely identifying the ad message or first signal set; see e.g. also Morrison [col. 3, ll. 5-55], [table 1]).

Regarding claim 25: The combined teachings of the aforementioned art teach a first cohesive signal set comprising a commercial advertisement (see e.g. Flickinger [9], [fig. 3], [42] where the first signal set is for commercial purposes).

Regarding claim 26: The combined teachings of the aforementioned art teach the method of using information contained within a second signal set, such as

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programming message code data, to select a particular first signal set, such as ad messages, for insertion into said second signal set, which is coded with attribute data to assist in the matching of message signal sets where the matching occurs by both coded data having a matching data value (see e.g. Flickinger [abstract], see e.g. also Morrison [table 1], [col. 3, ll. 16-63]); as well as determining whether the advertiser associated with a CID appended to an ad is the advertiser associated with the CID stored in a receiving device by using a code which identifies the advertiser of a intended ad to ensure that a replacement ad is from the same advertiser (see e.g. Hite [col. 4, ll. 19-24]; see e.g. also Liga [0053], [0084]) but do not teach wherein the message code data comprises a product classification to be matched.

Liga teaches embedding data within a data stream specifying a product category identifier, which reads on a product classification, for the purpose of targeting advertisements (see e.g. [53-55]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the information used for matching message sets by including information which specifies an product category identifier, as taught by Liga in order to provide additional criteria to be used in the selection of advertisements to target a particular user or audience.

Regarding claim 29: The combined teachings of the aforementioned art teach where the recall marker is a first recall marker; and where the second cohesive signal set further comprises a second recall marker (see e.g. Tanaka [fig. 2] for a first and second tag, which read on recall markers, accompanying a cohesive video signal segment).

Regarding claim 30: The combined teachings of the aforementioned art teach further comprising matching the second recall marker to the cache marker of the first cohesive signal (see e.g. Morrison [col. 3, ll. 16-55], [cols. 3-4, ll. 56-14] for matching a program break flag with a message code flag); and wherein the output timed relation is further determined by the second recall marker such that the first cohesive signal is output at least once for each cache marker matched to the first cohesive signal (see e.g. Tanaka [fig. 2], [col. 6, ll. 47-56], [col. 7, ll. 54-60], [col. 13, ll. 51-67] for where multiple tags, which read on recall markers, can be used).

Regarding claim 34: The combined teachings of the aforementioned art teach where outputting the requested second cohesive signal set and the first cohesive signal set meets a commitment for airtime due to the advertiser associated with the recall marker (see e.g. Liga [0084] where the motivation behind replacing an ad with another ad from the same advertiser is for the purpose of complying with a set of predefined business rules, which reads on meeting a commitment for airtime due to the advertiser).

Regarding claim 38: The combined teachings of the aforementioned art teach where the first cohesive signal set remains stored in the computer readable storage medium after the first cohesive signal set is outputted (see e.g. Liga [abstract], [0009], [0024] where once received ads remain stored until they expire).

2. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite and Liga, Son, Leibbrandt and Picco et al., (U.S. Pat. 6,029,045).

Regarding original claim 14: The combined teachings of the aforementioned art teach receiving message materials which have been distributed from a remote location (see e.g. [fig. 1], [abstract]) however they do not teach a received timed relation that is at least two orders of magnitude greater than said output timed relation.

Picco however, teaches a trickle technique where the amount of time required for receiving content may take up to a night, several days or even several weeks (see e.g. [col. 9, ll. 1-39]).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use other methods to retrieve content such a technique involving using unused bandwidth to retrieve programming while the receiver is not being used to view television, as taught in Picco, when providing a system which can receive, by downloading from a remote device, data for viewing, as taught in Flickinger, because this allows bandwidth to be used, when the receiver is not being used, for later viewing thus optimizing the bandwidth of the receiver while in use (see e.g. [col. 9, ll. 48-60]).

Regarding original claim 15: The combined teachings of the aforementioned art teach receiving message materials which have been distributed from a remote location (see e.g. [fig. 1], [abstract]) but do not explicitly teach receiving said first and second cohesive signal sets over different channels.

Picco however, teaches receiving segments of content that are downloaded over different channels (see e.g. [col. 3, ll. 24]). At the time the invention was made,

it would have been obvious to a person of ordinary skill in the art, to modify the device, as taught by Flickinger and Morrison, to include two tuners, as taught by Picco, which would enable a user to receive signal sets over different channels because a second tuner would allow, as was commonly practiced at the time of the invention, the viewing of picture-in-picture or the recording of a second channel while viewing a first channel (see e.g. [fig. 8]; see e.g. also [col. 9. ll. 31-37]).

3. Claims 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite, Liga, Son, Leibbrandt and Pudar et al., (U.S. Pub No. 2002/0184091 A1).

Regarding claim 18: The combined teachings of the aforementioned art teach providing data with ad messages, which reads on a cache marker, that directs said CPU to store said first cohesive signal set and delete another cohesive signal set bearing a similar cache marker but having different identifier information (see e.g. Flickinger [56]) but do not teach making such a determination using through the use of a priority code.

Pudar teaches using priority data as a key factor in determining how to respond to received advertisements (see e.g. [22], [29]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the data which accompanies the ad message by including priority data as taught by Pudar in order to enable the receiving device to select a better targeted advertisement or maximize revenue is priority is based on the pricing of advertisements (see e.g. [29]).

Regarding claim 27: The combined teachings of the aforementioned art teach providing data with ad messages, which reads on a cache marker, that directs said CPU to store said first cohesive signal set and delete another cohesive signal set bearing a similar cache marker but having different identifier information (see e.g. Flickinger [56]) but do not teach making such a determination using through the use of a priority code.

Pudar teaches using priority data as a key factor in determining how to respond to received advertisements (see e.g. [22], [29]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the data which accompanies the ad message by including priority data as taught by Pudar in order to enable the receiving device to select a better targeted advertisement or maximize revenue is priority is based on the pricing of advertisements (see e.g. [29]).

4. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite, Liga, Son, Leibbrandt, Pudar and Picco.

Regarding claim 28: The combined teachings of Flickinger, in view of Morrison and Pudar, teach using priority data which is embedded in a message signal (see e.g. [22], [29]) but do not teach wherein the priority code is a date/time stamp.

Picco teaches a data/time stamp (see e.g. [col. 10, ll. 62 through col. 11, ll. 1] for a date stamp which maintains the time when content will expire and also a time stamp which maintains the times which content may be viewed).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a date/time stamp, as taught in Picco, when embedding priority data in message signals, as taught in the combined teachings of Flickinger, in view of Morrison and Pudar, because with limited space, it is important to optimizing the available storage used to hold content by overwriting and deleting content such as advertisements that have expired and are no longer relevant, even though at the time of reception the priority was high.

5. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite, Liga, Son, Leibbrandt and Lowthert et al., (U.S. Pub. No. 2002/0100034 A1).

Regarding claim 31: The combined teachings of the aforementioned art teach receiving at least one additional cohesive signal set, each additional cohesive signal set comprising a cache marker (see e.g. Flickinger [56], [73-75] for a tag or other form of information, which reads on a cache marker, associated with the ad which can be used by the receiving device to determine whether or not to automatically store the ad; see e.g. also [58] where each ad is assigned a unique identifier), organizing the first cohesive signal set and the at least one additional cohesive signal set based at least in part on product classification (see e.g. Tanaka [figs. 10, 11], [col. 13, ll. 51-67] for matching using a product code, which reads on a product classifications) but does not teach where ad type information is included within a cache marker.

Lowthert teaches an info segment, which contains advertisement type data and reads on a type of descriptive data specifically used to control the display of advertisements, such as a cache marker (see e.g. [figs. 3, 4], [35] for descriptive ad type information which is contained within an info segment). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cache marker by including descriptive data such as data to describe the type of advertisement data, as taught by Lowthert, in order to provide a consolidated means of controlling which advertisements are selected for display..

6. Claims 32, 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite, Liga, Son, Leibbrandt and Pizaris-Henderson et al., (U.S. Pub. No. 2006/0190336 A1).

Regarding claim 32: Flickinger discloses a method comprising: monitoring at least on e channel in order to detect the presence of a cache marker; and in response to detecting a cache marker, receiving a plurality of first cohesive signal sets comprising a cache marker (see e.g. [0056] where although Flickinger is not so specific as to recite “monitoring... [a] channel”, Flickinger teaches detecting, by the STB, an ad tag or vector, where in response to detecting the presence of an ad tag the STB determines whether or not to store the ad; see also [0073-75] for a tag or other form of information, which reads on a cache marker, associated with the ad which can be used by the receiving device to determine whether or not to automatically store the ad); and receiving a request for outputting a second cohesive signal set, where the second cohesive signal set comprises a recall marker (see e.g.

[fig. 9], [29], [42], [63], [93] for a DBS system which receives broadcast request, where the programming set output contains interval data "avails" and cue data, which reads on a recall marker in that the avail data and cue data are used for recalling and inserting stored ads to be placed in the output stream); but Flickinger does not teach in response to the recall marker: matching the recall marker to the cache marker; determining an interrupt time during the second cohesive signal set in which to sequence the first cohesive signal based at least in part on the recall marker; and outputting the requested second cohesive signal set and the first cohesive signal set in a timed relation where the first cohesive signal set is output at the interrupt time.

Morrison teaches using signal sets which, in addition to including programming and ad messages, include codes which can be used to match ad messages with programming messages such that the data which is coded into the programming can be used to find the uniquely specified message stored in the receiving device (see e.g. [col. 3, ll. 16-55], [col. 5, ll. 1-14], [table 1], [cols. 9-10, ll. 60-17]). Morrison also teaches determining the interrupt time during the primary programming broadcast, which reads on the second cohesive signal set and outputting ads, which read on a first cohesive signal set in a timed relation using a program break flag which reads on a type of recall marker (see e.g. [col. 3, ll. 16-55], [cols. 3-4, ll. 64-14]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the receiver and the coded data received in the programming message, as taught in Flickinger, by providing more

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detailed information which can be used for comparison by the receiving device and using a program break flags, as taught by Morrison, in order to enable program providers to have more control over what and when ad messages are inserted into the programming messages to provide users with a more unique style of services (see e.g. [col. 1, ll. 38-50]).

Tanaka teaches transmitting by a broadcasting network and receiving by an end user terminal, a content stream containing tags, which read on recall markers, that are much smaller in size than full length commercials, containing only information within the tags specifying a URL or more generally a sponsor or product identifier (see e.g. [figs. 1, 2], [abstract], [col. 1, ll. 45-66], [col. 2, ll. 4-30]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second cohesive signal set by embedding a tag which contains information which is significantly less than the size of the commercial which will be interrelated with the primary content stream, as taught by Tanaka, in order to provide a more efficient means of interrelating local and regional content with the national satellite digital broadcasting network content stream.

While Tanaka teaches uniquely matching commercials by using tags contained in the programming stream (i.e. where the tags contain both URL information and other codes, such as sponsor or product codes, to assist in commercial selection), Tanaka is not so specific as to address what information is contained in the commercial to assist in this matching process. However, Hite teaches an analogous system for matching commercials with programming where

the commercials contain identifiers, referred to as CIDs, which are used to select the appropriate commercial to match the programming (see e.g. e.g. [cols. 3-4, ll. 40-24], [col. 5, ll. 29-39]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means of targeting and selecting ads for display by using both identifiers transmitted along with a program stream, which can be matched with identifiers in each commercial stored on a user device, which read on cache markers, as taught by Hite, in order to increase the effectiveness of matching programming content with meaningful commercial messages to consumers by selecting desired ad/commercial for presentation.

Furthermore, Tanaka teaches presenting alternative commercial content in the event tag information, which is used to identify a specific commercial to be inserted, does not uniquely determine a commercial (see e.g. [col. 7, ll. 61-67], [col. 10, ll. 28-34] where the unique commercial designated to fill the programming break is unavailable (i.e. not able to be determined) and other potential commercials are selected for the user to choose from) but does not teach where the selected commercials are from among the same advertiser.

Liga teaches a system for replacing ads (see e.g. [abstract]) where if an ad is unavailable, a replacement ad is selected “according to a set of business rules” to fill the ad’s place (see e.g. [0009], [0024], [0053], [0078], [0084] where a stale ad reads generally on an ad which is unavailable and needs to be replaced). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means by which Tanaka selects replacement ads when a

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match is not available, by replacing the unavailable ad with an ad from the same advertiser, as taught by Liga, in order to satisfy predefined business rules which ensure that ads are seen by the consumer.

While Liga teaches identifying a unique ad content for display (see e.g. [53]) Liga fails to teach first determining whether the requested ad content is located in the storage, but rather teaches where it is assumed that the ad content is located in storage but where said ad content is either stale or acceptable for display (see e.g. [84]). Liga also teaches that in the event said ad content is stale a remote location may be queried to replace the stale ad (see [9], [85-87] where a “fresh” ad is requested to replace the stale ad which is not available for insertion). In an analogous art for requesting content from a local storage device to be displayed to a user, Son teaches first determining whether or not the content is stored in the local storage medium (see [55] where if the content is not stored in the medium the system may then request replacement content from a remote location similarly to the remote request procedure of Liga but performed instead when no ad is present in local storage, as opposed to an ad which is present but not available for use). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the means by which content is retrieved, as taught in Liga, by including a first step to check if the content sought is located in storage first prior to seeking a replacement, as taught by Son, in the event that there is no matching content located on the local storage device.

Flickinger in view of Morrison, Tanaka, Hite, Liga, and Son do not disclose the limitation “determining whether the cache marker identically matches a cache marker already stored in a computer readable storage medium” and wherein “based on a determination that the cache marker does not identically match a cache marker already stored in the computer readable storage medium” automatically storing said first cohesive signal set.

However, in analogous art for storing video content, Leibbrandt teaches determining whether video content which has a unique identification matches video content already stored in a computer readable storage medium and if no matching video content is determined to already be stored, automatically storing the video content, based on the determination that the unique identification for the incoming video does not match any video content already stored in the computer readable storage medium (see e.g. [0068]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the storage procedure by first checking to see if the video content to be stored, already exist in storage, as taught by Leibbrandt in order to prevent the waste of unnecessary storage space with duplicate video content.

While Tanaka teaches wherein the ads to be inserted into the program stream inherently have a size that is much larger than the recall information (i.e. tags containing URL information) used to identify a particular ad to be inserted (see e.g. [col. 2, ll. 4-30]) and associating an ad with an advertiser (i.e. sponsor) and product information (see e.g. [col. 4, ll. 13-24]) Tanaka does not teach the classification of

product ads by “organizing the plurality of first cohesive signal sets by associated advertisers and associated product classifications.”

Pisaris-Henderson however teaches using information associated with the ads (i.e. content descriptors) to organize the ads based on said information such that the ads can be organized by the type of content, product and services (see e.g. [43]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify system of Tanaka, which also provides content descriptors to identify ads by product and by advertiser (i.e. sponsor), to organize the plurality of ads according to their associated content descriptors, as taught by Pisaris-Henderson, to facilitate searching for ads which are present in the system and available for selection in the event it is necessary to take account of which ads are available for use.

Regarding claim 33: The combined teachings of the aforementioned art teach where the recall marker is a first recall marker, the interrupt time is a first interrupt time and the second cohesive signal set further comprises a second recall marker (see e.g. Tanaka [fig. 2], [col. 6, ll. 48-56], [col. 7, ll. 54-60]); where a primary programming cohesive signal, which reads on a second cohesive signal set, comprises a second recall marker); the method further comprises: in response to the second recall marker: determining, by a processor, whether any one of the plurality of first cohesive signal sets located in the computer readable storage medium comprises an exact cache marker match to the second recall marker (see e.g. Flickinger [34], [42], [50], [56], etc for a means of retrieving an ad stored using a

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unique identified in a computer readable memory for display; e.g. Tanaka [col. 6, ll. 48-56] for using tag information, which reads on a recall marker, to retrieve an ad which is to be inserted into a time position for reproduction to a display with programming content); in response to determining that none of the plurality of first cohesive signal sets located in the computer readable storage medium comprises an exact cache marker match to the second recall marker, determining whether an advertiser associated with the second recall marker is an associated advertiser for any one for the plurality of first cohesive signal sets located in the computer readable storage medium (see e.g. Tanaka [col. 7, ll. 61-67], [col. 10, ll. 28-34] presenting alternative commercial content in the event tag information, which is used to identify a specific commercial to be inserted, does not uniquely determine a commercial where the unique commercial designated to fill the programming break is unavailable (i.e. not able to be determined) and other potential commercials are selected for the user to choose from; see also e.g. Liga [abstract], [0009], [0024], [0053], [0078], [0084] where if an ad is unavailable, a replacement ad is selected “according to a set of business rules” to fill the ad’s place to satisfy said business rules which take into consideration advertiser identification); in response to determining that the advertiser associated with the second recall marker is the associated advertiser associated with another selected first cohesive signal set of the plurality of first cohesive signal sets located in the computer readable storage medium, determining an interrupt time during the second cohesive signal set in which to sequence the other selected first cohesive signal based at least in part on

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the second recall marker (see e.g. Tanaka [col. 6, ll. 48-56] where tag information includes a temporal position at which an ad can be played, which reads on an interrupt time during second cohesive signal set); and outputting the requested second cohesive signal set and the other selected first cohesive signal set in a timed relation where the other selected first cohesive signal set is output at the interrupt time (see e.g. Flickinger [63]; see also e.g. Tanaka [col. 6, ll. 48-56]; for outputting ad content, which reads on a first signal set, at the interrupt time).

Regarding claim 35: The combined teachings of the aforementioned art teach where outputting the requested second cohesive signal set and the selected first cohesive signal set meets a commitment for airtime due to the advertiser associated with the recall marker (see e.g. Liga [0084] where the motivation behind replacing an ad with another ad from the same advertiser is for the purpose of complying with a set of predefined business rules, which reads on meeting a commitment for airtime due to the advertiser).

7. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite, Liga, Son, Leibbrandt and Linden et al., (U.S. Pub. No. 2003/0009765 A1).

Regarding claim 36: While the combined teachings of the aforementioned art teach a channel dedicated to a first cohesive signal (i.e. ads) and second cohesive signal (i.e. programming) (see e.g. Flickinger [0012], [0042] where a separate channel is used to fill avails; see also Tanaka [abstract], [fig. 1] where a ads and primary programming are received over two separate channels) where a

bandwidth dedicated to the first channel is reapportioned so that no gaps exist when the first channel is not using the full bandwidth.

However, in analogous art for broadcasting content, Linden teaches dynamic bandwidth management where data channels used to carry programming content can be reapportioned by expanding or contracting said channels when more bandwidth is required or bandwidth is unused (see Linden e.g. [fig. 4], [0035], [0038]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify how bandwidth is managed, by contracting the bandwidth within the unused portions of a channel, as taught in Linden, to eliminate wasted bandwidth portions in a programming stream which is not occupied with programming content.

Regarding claim 37: The combined teachings of the aforementioned art teach where reapportioning the width is performed by contracting the bandwidth dedicated to the first channel (see Linden e.g. [fig. 4], [0035], [0038] for contracting the bandwidth dedicated to a particular channel).

8. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickinger, in view of Morrison, Tanaka, Hite and Liga, Son, Leibbrandt and Brotz et al., (U.S. Pat. 6,374,404 B1).

Regarding claim 39: The combined teachings of the aforementioned prior art are silent regarding wherein monitoring comprises scanning the at least one channel at frequent intervals.

In analogous art for receiving additional content over broadcast channels Brotz teaches “scanning at lease one channel at frequent intervals” (see e.g. [abstract], [col. 3, ll. 9-46], [cols. 11-12, ll. 60-13]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Flickinger which detects ad tags and other additional information, by scanning at least one channel at frequent intervals, as taught by Brotz, in order to ensure that the additional content is up-to-date while at the same time optimizing the use of the available bandwidth provided for the user's enjoyment of his/her expected audio/video services.

Regarding claim 40: The combined teachings of the aforementioned prior art teach wherein monitoring comprises scanning the at least one channel at times when the at least one channel is scheduled as not operational (see e.g. Brotz [abstract], [col. 3, ll. 9-46], [col. 8, ll. 4-13] where “background” channel scanning to update the additional content reads on “scanning... at times when the at least one channel is scheduled as not operational”).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Thomas whose telephone number is (571) 270-5080. The examiner can normally be reached on Mon. - Thurs., 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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J. Thomas

/HAI V. TRAN/
Primary Examiner, Art Unit 2426